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Factors predicting mitral restenosis after successful percutaneous mitral commissurotomy

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Introduction: Percutaneous mitral commissurotomy (PMC) is the alternative treatment of choice for mitral stenosis (MS). Its immediate and medium term results are comparable to those of surgical commissurotomy, however in the long term there is a risk of restenosis. The purpose of this study is to determine the factors predicting restenosis after PMC.

Methods: 322 patients (66% women), average age: 35 ± 13 years (9-75 years) having a tight MS and treated by PMC with Inoue balloon. The anatomic aspect of the mitral apparatus before PMC has been studied according to the criteria of the Wilkins score with a concomitant study of the state of mitral commissures. The primary success of PMC is defined as follows: mitral area (MA) post-PMC $> 1.5 \text{ cm}^2$ and gain in MA $> 25\%$ and mitral regurgitation (MR) \leq grade 2. Mitral restenosis is defined as a MA $< 1.5 \text{ cm}^2$ and/or loss $> 50\%$ of initial gain in MA.

Results: The rate of primary success of PMC was 86% and mean MA post PMC was $1.82 \pm 0.33 \text{ cm}^2$ compared to MA pre-PMC of $1 \pm 0.18 \text{ cm}^2$ ($p < 0.0001$). Opening of two commissures has been observed in 74% of patients. After an average period of 62 ± 32 months, only 12% of patients had a dyspnea stage III-IV of NYHA, MA was $1.64 \pm 0.3 \text{ cm}^2$ ($p < 0.001$) and mitral restenosis happened in 47 patients (20%) after a period of 60.48 ± 27 months (22-124 months).

The independent predictors of mitral restenosis after a successful PMC were: previous surgical commissurotomy, Wilkins score > 8 , MA after PMC $< 1.8 \text{ cm}^2$ and absence of bicommissural opening post PMC.

Conclusion: A favorable anatomy of mitral apparatus and the optimisation of immediate result of PMC are the guaranty for the maintain of good result in the long term.

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Closed mitral commissurotomy vs percutaneous mitral dilatation. Long term results in patients undergoing mitral valve replacement

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Background: In countries where still rheumatic heart disease, mitral stenosis is one of the most common valvulopathy. Mitral valve replacement is the gold standard, however, some patients can be eligible to closed surgical or percutaneous dilatations.

The aim of this study is to compare the long term results of both of techniques in patients undergoing mitral valve replacement.

Material and methods: This is a retrospective study including 35 patients who were operated for mitral valve replacement between Jan 2008 and Sept 2010. All of them have already undergone whether closed mitral commissurotomy (Group 1/25 patients) or percutaneous mitral commissurotomy (Group 2/10 patients).

Both the long term results of mitral dilatation, and, the short term outcomes of mitral valve replacement were studied.

Results: Events free survival was longer in CMC group (117 months vs 42 months). Mitral regurgitations observed in the first group ($n=4$) seemed to have rheumatic origin, whereas those observed in the second group ($n=2$) were iatrogenic.

Except bleeding, no difference was noted concerning the short term outcomes of the mitral valve replacement.

Conclusion: In spite of its invasiveness, closed mitral commissurotomy still an attractive therapeutic solution especially in rheumatic population. CMC results in good long term results and don't compromise mitral valve replacement.

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Incidence and prognostic value of serious hemorrhagic complications following TAVI procedure

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Aims: Although being a less invasive option than conventional surgery, TAVI procedures require large bore catheters, mini-invasive surgical access and double antiplatelet therapy. These factors might favour bleeding and negatively impact subsequent prognosis in this fragile patients with high comorbidities. We sought to evaluate the incidence, characteristics, predictors and prognosis impact of serious hemorrhagic complications following TAVI.

Methods: Between November 2008 and April 2011, $n=112$ consecutive patients with symptomatic severe aortic stenosis underwent TAVI in our institution (83.7 ± 6.1 y; 39% men; mean Euroscore = 21.3 ± 10.5) using either transfemoral and transapical access. The primary criteria was the incidence of any bleeding complication, according to recently proposed Valve Academic Research Consortium (VARC) criteria.

Results: Acute procedural success rate was 98%. Serious bleeding events were observed in 35% of patients, including $n=15$ VARC life-threatening/disabling (LT/D) and $n=24$ major bleeding events. Most of the complications were related to access site complications (71%).

Follow-up was achieved in $n=106$ patients (median follow-up = 7.0 months [range: 1-24]). The mortality was significantly higher in patients with serious events compared to patient without bleeding ($p=0.02$, log-rank analysis). Although the survival didn't significantly differ in patients with major hemorrhagic events ($p=0.60$), subjects with LT/D bleeding events had a higher mortality than the subjects with no hemorrhagic complications ($p < 0.001$, log-rank analysis). Occurrence of VARC LT/D event following TAVI was a predictor of all-cause mortality ($HR=6.1$ [2.2-16.8], $p < 0.001$) after adjustment for other variables in Cox regression analysis.

Conclusion: Serious bleedings are frequent following TAVI procedure and are mainly related to local haemorrhage. VARC life-threatening/disabling bleeding events have an impact on outcome and are associated with decreased survival after aortic stenosis correction.

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Predictive factors of restenosis after percutaneous mitral commissurotomy (PMC)

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Introduction: The wide use of PMC underlines the need to identify the predictive factors of restenosis to guide indications.

Materials and methods: retrospective study of 170 patients, hospitalized in the cardiology department between January 1994 and January 2008 having PMC by balloon inoue with a clinical and echocardiographic follow-up of more than 10 years.

Results: The restenosis was defined in our study by a mitral surface low than 1.5 cm^2 , it was noted in 60 patients that is 35%. The estimation of Kaplan-Meier showed that the absence of restenosis was 87.6% in 3 years, 80% in 5 years, 72.4% in 7 years and 65.9% in 10 years. The predictive factors of restenosis identified by the univariates analysis were:

- History of PMC ($p=0.017$)
- Mitral valve area before PMC $\leq 0.8 \text{ cm}^2$ ($p=0.089$)
- A high echocardiographic score with a risk of restenosis multiplied by 5.5 if the score is ≥ 12 ($p=0.028$)
- The mean pulmonary artery pressure before PMC $> 30 \text{ mmHg}$ ($p=0.089$)